

Matt Hardy

List of Publications by Year in descending order

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61
papers

2,568
citations

304602

22
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197736

49
g-index

62
all docs

62
docs citations

62
times ranked

3031
citing authors

#	ARTICLE	IF	CITATIONS
1	High-resolution electrohydrodynamic jet printing. Nature Materials, 2007, 6, 782-789.	13.3	1,231
2	Group III-nitride lasers: a materials perspective. Materials Today, 2011, 14, 408-415.	8.3	129
3	Epitaxial ScAlN grown by molecular beam epitaxy on GaN and SiC substrates. Applied Physics Letters, 2017, 110, .	1.5	87
4	AlGaIn-Cladding Free Green Semipolar GaN Based Laser Diode with a Lasing Wavelength of 506.4 nm. Applied Physics Express, 2010, 3, 011002.	1.1	82
5	444.9-nm semipolar (112°) laser diode grown on an intentionally stress relaxed InGaIn waveguiding layer. Applied Physics Letters, 2012, 100, .	1.5	59
6	Blue-Green InGaIn/GaN Laser Diodes on Mismatched-Plane GaN Substrate. Applied Physics Express, 0, 2, 082102.	1.1	56
7	Performance and polarization effects in (112°) long wavelength light emitting diodes grown on stress relaxed InGaIn buffer layers. Applied Physics Letters, 2012, 101, 121106.	1.5	53
8	Indium-tin-oxide clad blue and true green semipolar InGaIn/GaN laser diodes. Applied Physics Letters, 2013, 103, 081103.	1.5	46
9	Trace analysis of non-basal plane misfit stress relaxation in (202°) and (303°) semipolar InGaIn/GaN heterostructures. Applied Physics Letters, 2012, 100, .	1.5	42
10	Pulsed high-power AlGaIn-cladding-free blue laser diodes on semipolar (202°) GaN substrates. Applied Physics Letters, 2013, 103, 151112.	1.5	41
11	Epitaxial Lift-Off and Transfer of III-N Materials and Devices from SiC Substrates. IEEE Transactions on Semiconductor Manufacturing, 2016, 29, 384-389.	1.4	41
12	m-Plane GaN-Based Blue Superluminescent Diodes Fabricated Using Selective Chemical Wet Etching. Applied Physics Express, 2009, 2, 121004.	1.1	40
13	Epitaxial metallic $\text{In}_2\text{Nb}_2\text{N}$ films grown by MBE on hexagonal SiC substrates. Applied Physics Express, 2015, 8, 085501.	1.1	38
14	Nonpolar AlGaIn-Cladding-Free Blue Laser Diodes with InGaIn Waveguiding. Applied Physics Express, 0, 2, 071003.	1.1	37
15	Demonstration of 505-nm laser diodes using wavelength-stable semipolar (202°) InGaIn/GaN quantum wells. Applied Physics Letters, 2011, 99, .	1.5	35
16	Control of phase purity in high scandium fraction heteroepitaxial ScAlN grown by molecular beam epitaxy. Applied Physics Express, 2020, 13, 065509.	1.1	35
17	Epitaxial ScAlN Etch-Stop Layers Grown by Molecular Beam Epitaxy for Selective Etching of AlN and GaN. IEEE Transactions on Semiconductor Manufacturing, 2017, 30, 475-479.	1.4	33
18	Heteroepitaxial growth of $\text{In}_2\text{Ga}_2\text{O}_3$ films on SiC via molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	33

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19	Stress relaxation and critical thickness for misfit dislocation formation in (101 $\hat{\text{A}}^0$) and (3031 $\hat{\text{A}}^-$) InGaN/GaN heteroepitaxy. Applied Physics Letters, 2012, 100, 171917.	1.5	32
20	Observation of non-basal slip in semipolar In _x Ga _{1-x} N/GaN heterostructures. Applied Physics Letters, 2011, 99, 251909.	1.5	30
21	Critical issues for homoepitaxial GaN growth by molecular beam epitaxy on hydride vapor-phase epitaxy-grown GaN substrates. Journal of Crystal Growth, 2016, 456, 121-132.	0.7	28
22	Continuous-Wave Operation of Pure Blue AlGaIn-Cladding-Free Nonpolar InGaIn/GaN Laser Diodes. Applied Physics Express, 2010, 3, 092103.	1.1	27
23	Surface preparation of freestanding GaN substrates for homoepitaxial GaN growth by rf-plasma MBE. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2017, 35, .	0.6	24
24	True green semipolar InGaIn-based laser diodes beyond critical thickness limits using limited area epitaxy. Journal of Applied Physics, 2013, 114, .	1.1	23
25	Impact of p-GaN Thermal Damage and Barrier Composition on Semipolar Green Laser Diodes. IEEE Photonics Technology Letters, 2014, 26, 43-46.	1.3	22
26	Band Alignment of Sc _x Al _{1-x} N/GaN Heterojunctions. ACS Applied Materials & Interfaces, 2020, 12, 52192-52200.	4.0	22
27	m-plane pure blue laser diodes with p-GaN/n-AlGaIn-based asymmetric cladding and InGaIn-based wave-guiding layers. Applied Physics Letters, 2009, 95, 081110.	1.5	20
28	High Power Density ScAlN-Based Heterostructure FETs for mm-Wave Applications. , 2019, , .		20
29	Characterization of molecular beam epitaxy grown $\hat{\text{I}}^2\text{-Nb}_2\text{N}$ films and AlN/ $\hat{\text{I}}^2\text{-Nb}_2\text{N}$ heterojunctions on 6H-SiC substrates. Applied Physics Express, 2016, 9, 021003.	1.1	16
30	Molecular Beam Epitaxy of Transition Metal Nitrides for Superconducting Device Applications. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900675.	0.8	16
31	Passivation Schemes for ScAlN-Barrier mm-Wave High Electron Mobility Transistors. IEEE Transactions on Electron Devices, 2022, 69, 962-967.	1.6	16
32	Engineering Efficient Acoustic Power Transfer in HBARs and Other Composite Resonators. Journal of Microelectromechanical Systems, 2020, 29, 1014-1019.	1.7	14
33	Onset of plastic relaxation in semipolar (111 $\hat{\text{A}}^-$) InGaIn/GaN heterostructures. Journal of Crystal Growth, 2014, 388, 48-53.	0.7	13
34	Charge control in N-polar InAlN high-electron-mobility transistors grown by plasma-assisted molecular beam epitaxy. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2015, 33, .	0.6	13
35	(Invited) ScAlN: A Novel Barrier Material for High Power GaN-Based RF Transistors. ECS Transactions, 2017, 80, 161-168.	0.3	13
36	Epitaxial Single-Crystal ScAlN on 4H-SiC for High-Velocity, Low-Loss SAW Devices. , 2020, , .		12

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37	Suppression of m-plane and c-plane slip through Si and Mg doping in partially relaxed (202Å ⁻¹) InGaN/GaN heterostructures. Applied Physics Letters, 2012, 101, 132102.	1.5	11
38	AlN/GaN/AlN resonant tunneling diodes grown by rf-plasma assisted molecular beam epitaxy on freestanding GaN. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, .	0.6	11
39	Suppression of relaxation in (202Å ⁻¹) InGaN/GaN laser diodes using limited area epitaxy. Applied Physics Letters, 2012, 101, .	1.5	8
40	Long-wavelength dielectric properties and infrared active optical phonon modes of molecular beam epitaxy ScxAl1-xN determined by infrared spectroscopic ellipsometry. Applied Physics Letters, 2020, 117, 232107.	1.5	8
41	Propagation of Spontaneous Emission in Birefringentm-Axis Oriented Semipolar (11ar22) (Al,In,Ga)N Waveguide Structures. Japanese Journal of Applied Physics, 2010, 49, 010207.	0.8	7
42	XeF2 etching of epitaxial Nb2N for lift-off or micromachining of III-N materials and devices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	6
43	RF-plasma MBE growth of epitaxial metallic TaNx transition metal nitride films on SiC. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, .	0.6	5
44	AlGaIn-Cladding-Free m-Plane InGaIn/GaN Laser Diodes with p-Type AlGaIn Etch Stop Layers. Applied Physics Express, 2011, 4, 092105.	1.1	4
45	Morphological and microstructural stability of N-polar InAlN thin films grown on free-standing GaN substrates by molecular beam epitaxy. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	0.9	4
46	Scandium Aluminum Nitride as an Emerging Material for High Power Transistors. , 2018, , .		4
47	Dependence of growth temperature on the electrical properties and microstructure of MBE-grown AlN/GaN resonant tunneling diodes on sapphire. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 032214.	0.6	4
48	Electrical properties of high permittivity epitaxial SrCaTiO3 grown on AlGaIn/GaN heterostructures. APL Materials, 2021, 9, 111101.	2.2	4
49	Growth-induced temperature changes during transition metal nitride epitaxy on transparent SiC substrates. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 032204.	0.6	3
50	Epitaxial growth of SrCaTiO3 films on GaN by molecular beam epitaxy with a TiO2 buffer layer. Journal of Applied Physics, 2020, 127, 214104.	1.1	3
51	Effect of n-AlGaIn cleave assistance layers on the morphology of c-plane cleaved facets for m-plane InGaIn/GaN laser diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2226-2228.	0.8	2
52	Metallic $\hat{2}$ -Nb2N Films Epitaxially Grown by MBE on Hexagonal SiC Substrates. MRS Advances, 2016, 1, 127-132.	0.5	2
53	Plasma-assisted Molecular Beam Epitaxy of N-polar InAlN-barrier High-electron-mobility Transistors. Journal of Visualized Experiments, 2016, , .	0.2	1
54	(Invited) Micro-Transfer Printing Technology for GaN Transistors. ECS Meeting Abstracts, 2019, , .	0.0	1

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55	Emerging materials, processing and device concepts. Semiconductors and Semimetals, 2019, 102, 435-465.	0.4	0
56	Crystalline Phase Control in Sc _x Al _{1-x} N Grown by Molecular Beam Epitaxy. Microscopy and Microanalysis, 2021, 27, 2880-2881.	0.2	0
57	Semipolar (20 21 Å ⁻¹) Laser Diodes (λ=505nm) with Wavelength-Stable InGaN/GaN Quantum Wells. , 2012, , .		0
58	Demonstration of a Relaxed Waveguide Semipolar (20 2 Å ⁻¹) InGaN/GaN Laser Diode. , 2012, , .		0
59	Demonstration of True Green ITO Clad Semipolar (20 2 Å ⁻¹) InGaN/GaN Laser Diodes. , 2013, , .		0
60	(Invited) ScAlN: A Novel Barrier Material for High Power GaN-Based RF Transistors. ECS Meeting Abstracts, 2017, , .	0.0	0
61	(Invited) What's Next after GaN? How about More GaN!. ECS Meeting Abstracts, 2017, , .	0.0	0